



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,068	05/24/2001	Chih-Chong Wang	60594-300401	6861

25696 7590 07/16/2002

OPPENHEIMER WOLFF & DONNELLY
P. O. BOX 10356
PALO ALTO, CA 94303

EXAMINER

PATEL, NIHIR B

ART UNIT	PAPER NUMBER
----------	--------------

3743

DATE MAILED: 07/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/866,068

Applicant(s)

WANG ET AL.

Examiner

Nihir Patel

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,8-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

Response to Amendment

1. This Office action is in response to the amendment and arguments filed on April 15, 2002.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5,8,9 and 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Shimada et al. U.S. Patent No. 5,838,064. Referring to claim 17, Shimada discloses a supporting member for cooling means and electronic package using the same that comprises a heatsink (43); a thermal pad (44), stuck to a bottom of the heatsink (43); and a stabilization plate (12), stuck to the bottom of the heatsink (43), wherein the stabilization plate (12) is set around the thermal pad (44) for making the thermal pad (44) closely contact the die of the chip (40). Refer to figure 3.

Referring to claim 5, Shimada discloses a supporting member for cooling means and electronic package using the same that comprises a stabilization plate (12); and a heatsink (43) stuck with the stabilization plate (12), wherein the heatsink (43) comprises a right portion and a left portion respectively having a first plurality of cooling fins and a second plurality of cooling fins and the second cooling fins are less than the first cooling fins. Refer to figure 3.

Referring to claim 8, Shimada's invention further comprises a thermal pad (44) located under the heatsink (43) through which heat from socket is conducted to the heatsink (43). Refer to figure 3.

Referring to claim 9, Shimada shows that the stabilization plate (12) surrounds the thermal pad (44) for making the thermal pad (44) closely compact to the die when the heatsink (43) is located on the die. Refer to figure 3.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,10,15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable Shimada et al. U.S. Patent No. 5,838,064 in view of Glenn et al. U.S. Patent No. 5,596,485. Referring to claims 1 and 10, Shimada discloses the applicant's invention as claimed with the exception of providing a stabilization plate (12) that has a smaller thickness than the die.

Glenn discloses a plastic packaged integrated circuit with heat spreader that does state that the stabilization plate can be made of any dimension desired. Therefore it would be obvious to modify Shimada's invention to provide a stabilization plate that has a smaller thickness than the die so that the heat sink takes up less space.

Referring to claims 2,15, and 16, Shimada discloses the applicant's invention as claimed with the exception of stating that the stabilization plate is an n-shaped slice in a top view.

Glenn discloses a plastic packaged integrated circuit with heat spreader that does state that the stabilization plate can be made of any shape and size. Therefore it would be obvious to modify Shimada's invention by stating that the stabilization plate can be any shape and size in order to meet the needs of the customers.

Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al. U.S. Patent No. 5,838,064 in view of Feinberg et al. U.S. Patent No. 5,060,114.

Shimada discloses the applicant's invention as claimed with the exception of providing a stabilization plate that has a fingerprint thereon after being pressed by a finger, but the fingerprint disappears right away.

Feinberg discloses a conformable pad with thermally conductive additive for heat dissipation that does provide a stabilization plate that has a fingerprint thereon after being pressed by a finger, but the fingerprint disappears right away. Therefore it would be obvious to modify Shimada's invention by providing a stabilization plate that has a fingerprint thereon after being pressed by a finger, but the fingerprint disappears right away in order to provide a closer contact between the heatsink and the chip.

Referring to claims 12,13, and 14 the applicant claims that the stabilization plate comprises of two bars respectively having length of about 49.29 to about 49.31 millimeters in a top view, a lateral bar having a length of about 48.69 millimeters to about 48.71 millimeters in a top view, and the bars respectively having a width of about 9.99 to about 10.01 millimeters in a top view. It is obvious to one in the ordinary skill of the art that the length and width of the bars is simply a matter of design choice since it really depends on where the invention is going to be applied.

Conclusion

4. Applicant's arguments with respect to claims 1 and 5 have been considered but are moot in view of the new ground(s) of rejection.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Nihir Patel whose telephone number is (703) 306-3463. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful the examiner supervisor Henry Bennett can be reached at (703) 308-0101.

NP
March 12, 2002

Henry Bennett
Supervisory Patent Examiner
Group 3700

